

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: GREGOIRE@endor.com (ERNEST GREGOIRE)  
Subject: [6708] 10 meter prop. study  
Message-ID: <199604052243.RAA30826@nss2.CC.Lehigh.EDU>

Hello Gang,

Recent postings regarding 10 meters has got me thinking, why not do a 10 meter propagatin study just for fun at the bottom of the sun cycle?

What else can we do, get on 20 or an ever so crowded 40 meters?

How about a check of 10 just before the Knightlites meet at 10 EST.  
or now e.d.s.t. as will be the case very soon?

It will be something to talk about on the net. And how about at 10 am.  
Lets do one then too. So rather than singe my mustache with a flame about  
not using UTC, why not fire up your rig on 10 meters and yell at me there?  
I will check both 28.060 and 28.385, cw and ssb respectively.

de AA1IK                    N.E.-QRP-C. # 202    ( Lead by example, It is better to    )  
                             QRP-L member #95.    ( pull a string than it is to push it.)

Ernie Gregoire  
RR 1 Box 221  
Canaan, NH. 03741

New England QRP Club, information  
available on request by sending me a  
S.A.S.E. or via E-mail.

e-mail : GREGOIRE@ENDOR.COM  
packet : AA1IK@WA1WOK.FN43FE.NH.USA

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: dgf@netcom.com (David Feldman)  
Subject: [6696] 40-9'er FAQ?  
Message-ID: <199604051731.JAA25357@netcom23.netcom.com>

Is there a FAQ or other summary of the 40-9'er project? I missed out on the  
early e-mails as I was busy and now I'd like to catch up.

73 Dave WB0GAZ dgf@netcom.com

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: WD6BOR@aol.com  
Subject: [6691] 40-9er spreads (like all good ideas)  
Message-ID: <960405120159\_369626821@emout06.mail.aol.com>

This was originally going to Doug, but I thought the whole group could use the word.

I've just finished kitting and distributing twenty 40-9er kits to the nice folks of the Valley of the Moon ARC here in Sonoma and to some of the Sonoma County Radio Amateurs over in Santa Rosa and can only say that Doug, Jim and Wayne either are QRP saints or just plain nuts. The fact that they put together yet another great little project and then had printed circuit boards made, bought all the parts with their own money, painstakingly sorted those parts into kits, wrote another comprehensive construction manual and then made all that available to QRPers everywhere proves great devotion to this part of our "hobby". I know that I enjoyed my effort to put together a measly twenty kits and enhanced that enjoyment by sharing them with other hams. I hope Doug, Jim and Wayne (with help and input from all the others) also are enjoying sharing with the ham community.

So from me, and all the rest of us, "Thank you!" guys, and keep enriching amateur radio with those fantastic building projects and by continuing to promote QRP.

Darrel, WD6BOR

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: scott.thomas@circellar.com  
Subject: [6697] 40-9er/49er Help needed.  
Message-ID: <9604051237.0HQWM00@circellar.com>

I began the kit today and have not gotten far before a little problem arose. In the areas of chokes; I've identified rfc3, 4, 6, and 2, but the 2 chokes I'm left with, which must be 1 and 5, don't match the color scheme in the directions. The chokes I have, which are taped together, have colors of orange (or red), orange (or red), gold and black and a green body. The instructions indicate they should be 2.2uH with colors silver, red, gold, red, silver. My color vision is poor, but good enough, I think, to feel confident that something is amiss. Well, I'll bypass these 2 components until some kind sole gives me some advice, and will go back to the other side of the room and continue stuffing the board.

Scott.

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: ae4ic@nr.infi.net (BOB KELLOGG)  
Subject: [6690] 49er Report  
Message-ID: <199604051701.MAA26907@mh004.infi.net>

OK, Gang, now I can give you a report.

I put my 49er together last saturday afternoon. It went together easily and the reciever worked fine.

However, when I keyed the transmitter, the first tentative dots sounded great -- then this squealing started that told me something as oscillating improperly. I quickly disconnected the battery and tried again. First few dots ok, then squealing.

Well, I'm in the middle of doing my income tax, and just snuck off to take a mental break by putting the 49er together. I laid the rig aside.

Now I have a dilemma. I haven't checked my work, and could have done something like transpose some capacitors, etc. -- But, if I don't see an obvious error, what am I going to do? I'm the guy who had so much trouble with the NW8020, and maybe that was OK, there were some unusual situations there. But this is a beginners kit! Dare I admit to the world that I can't build the now ubiquitous 49er?

Then, SAVED, SAVED AT LAST!!!! -- There was this post from Wayne Burdick about instability, and how to cure it!

Today, I bypassed the Voltage Regulator, but no help. Then, I wound an FT-37-43 core with 10 turns of #28 (42uh!) and replaced RFC4. The new choke laid down in the open space beside the old choke position nicely.

When I fired it up, nothing but nice smooth notes emitted. Problem fixed!

Checked the output at .2 watts with 9v battery and .5 watts with 12.5v. It has a very nice sound. Probably try for a QSO later today.

Now for the mods!

CUL,

Bob Kellogg, AE4IC  
Probably, but not nececelery. - Benny Hill

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Marshall Emm <75230.1405@compuserve.com>  
Subject: [6680] 49er-- Inquiring Minds Want to Know  
Message-ID: <960405054044\_75230.1405\_HHB31-1@CompuServe.COM>

This is for Gary and Doug, mostly, but it may be of interest to others....

Two comments and question on the Rev B board.

The comments are a) that the blue silk screening is VERY hard to read, and b) on the board I just populated (all the others are sealed up in envelopes so I can't check the screening fades away to nothing at the left side of the board. I found it was possible to deduce values where I couldn't clearly read them, so no biggie.

And the question-- what is C21? The only thing close that I found in my archived forty-9er traffic was a reference to maybe parallelling a 5 puf cap with the VX0 trimmer. Is that what it's for? And the two extra holes either side of the trimmer on the opposite end from the rock-- any purpose?

I was delighted to find that all the parts went in without fuss, and am looking forward to the smoke test (probably tomorrow night). I kitted up 40 units so am bound to get some questions, but so far I think I can handle it.

Nice work, guys!

73/72  
Marshall  
AA0XI/VK5FN

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: dcscott@ix.netcom.com (Dale Scott)  
Subject: [6710] Altoid Offer(s)  
Message-ID: <199604052341.PAA01526@dfw-ix2.ix.netcom.com>

Hello everyone...

Here in Washington State Altoids are readily available in all major

grocery stores, drugstores, etc. If you would like to receive a tin (unopened) of Altoids free of charge read on:

1) One free tin of Altoids, postage included, to the first person who can email to me the details on how/where I can obtain the plans/kit for the 49'r.

2) One free tin of Altoids, postage included to the first person who can tell me how to add sidetone to the 49'r.

3) I would like to build the Gell-Cell charger based on the UC3906 that is in the ARRL handbook. However, the battery that I have is a 75 amp-hour pack and so I would like to modify the charger design to put out a higher charging current. Unfortunately, what analog design skills I once possessed have gone by the wayside. Two free tins of Altoids, postage included, to the first person who can tell me how to modify this charger design to put out a bulk charge current of say 5-7 amps.

73's and thx.....Dale (KC7KHD)

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: rflight@vnet.ibm.com  
Subject: [6687] ALTOIDS alert  
Message-ID: <199604051517.KAA97357@nss2.CC.Lehigh.EDU>

Hi Gang;

Now's your chance to see what an ALTOIDS box actually looks like. This for those who have been suffering from ALTOIDS anemia:-). Point your browser to:

<http://www.duke.edu/~djohnson>

Welcome to the WEB page of the KnightLites. See if you can find our gif to you... Check us out, and be the first in your area to declare you've actually seen what an ALTOIDS look like.... Say ahhhh!

30 / 72 / 73 de N3G0

Happy Easter to all!

Gary, Raleigh, NC

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "William C. Robbins" <billrobb@serv01.net-link.net>  
Subject: [6714] Another 40-9er problem  
Message-ID: <199604060347.WAA06148@serv01.net-link.net>

Hi gang:

I have been kinda quiet around here and rather new to the list...and qrp. I just completed the 40-9er and have a couple of problems I know you could help with. I have the Rev B board.

1. I have very loud broadcast band signals. They seem to fade a little but never enough to really hear the cw under them. The sigs under the broadcast sigs are cw sigs on 7045+ -, however.

2. The transmitter works fine. I have used my Omni as a receiver when using the 40-9er to test it. However, I have a constant tone at the same freq as the cw tone when the rig is powered. I can still send cw over it and all is sent well. But the constant, continuous tone remains until I pull the battery. The breakin works fine.

Help please and thanks to all of you who made the 40-9er available.

By the way, how did you ever get the 9 volt battery in the Altriod box??!!  
My lithium battery does not fit.

Hope to meet many of you in Dayton.

73 de Bill

William C. Robbins, WA8CDU  
billrobb@serv01.net-link.net

\*\*\*Heathkit Collector\*\*\*

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Brad Mugleston <bmug@gw1.com>  
Subject: [6709] Antenna Tuner  
Message-ID: <199604052311.AA21374@gp-nixon.gw1.com>

There has been some talk on this reflector about qrp antenna tuners. I built one that works great and includes a meter. It measures 1.5 X 2 X 4 inches and was designed by Phil Salas, AD5X. You can find the instructions for it in the October 95 issue of 73 and Mouser / Radio Shack have all the parts. Currently

Mouser has a 100um meter on half price that fits well in the case.

The problems I had were due to lack of skill but I got Elmered out of them (thanks Elmer). Due to the small size and ugly building you need to watch out for shorts - use a lot of hot glue around joints.

Ive played with it on my 40M delta loop and can get nearly 1:1 on all bands. Phil uses 100' of wire made into a dipole (two 50' legs) for travel setups.

Note for knobs on the variable caps - epoxie small knobs to the mounting screws - install with fingernail pollish and your done (not my idea).

My idea, mount the input and output connections low on the back of the case. The weight of the external connections wont tip the unit over as eaisly.

Have fun,

de KBØROL

From owner-qrp-l@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>  
Subject: [6701] cascade questions  
Message-ID: <Pine.SUN.3.92.960405115657.11825A-100000@ume>

I have have been making slow, intermittent progress with my cascade kit. I have two questions for those of you who "have been there, done that".

My BFO and VFO RMS output is substantially less than quoted in the manual.

BFO output is 900 mv rms just before R22, about 40 mv after. This is what is measured at U1, pin 6. R22 is measured at 2.2K. I can get the BFO frequency on my counter and HF radio as per instructions. Should I care? Has anybody experienced this and reduced the value of R22?

VFO output is similar, about 900 mv rms before R21 and then 175 mv after. The same 175 mv also measured at U7, pin 6. VFO output measured ok with counter and HF radio. I supsect this is ok but wonder if anybody has seen this as well and changed the value of R21. (Which I confirm is 4.7K)

Which brings me up to my REAL problem today. ;-)  
Just finished the band modules and Section 5 (IF and Product detector) at the same time. Checked the current..ok at 60 ma. Then smoke for 5

seconds!

I have not been able to identify the source of escaping electrons. Current drain remains normal and recheck of all stages appears normal up to and including the section 5 tests.

With band modules in I have been able to copy my son (Ve6gkj) transmitting on the HF station and have adjusted the BFO, peaked C1, C2 on the modules etc. However, I cannot copy any other stations. I applied 5 mv to the antenna terminal (using my MFJ SW R analyzer..handy thing) and get the expected measurements at U7 and U1. However, I do not appear to be getting 120 mv DMM AC V at U8 pin 1. (more like 8 mv rms AC) Pin voltages to U8 are ok.

Does it sound like this is my problem? It seems like the signal get this far and then is not amplified i.e. that's why I can only hear strong, local signal because of insufficient audio amplification. ( I note the cascade does not have any IF amplification.)

Any suggestions before I try to find an NE5532N and replace it? (Of course I have lots of spare IC's but not this one on an easter weekend with everything closed!)

Thanks

Dr. Rick Zabrodski BSc, MD, CCFP(E)	*	VE6GK
Clinical Assistant Professor	*	NorCal 519 ARCI 7650 GQRP 8329
Faculty of Medicine, Univ. of Calgary	*	"Power is no substitute for skill"

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: burdick@interval.com (Wayne Burdick)  
Subject: [6706] Choke your 40-9er, now!  
Message-ID: <v0213050cad8b401df911@[199.170.106.28]>

Based on a couple of messages like Bob Kellog's, I now can say with some confidence that the rev. B 40-9er board, at least, must have the driver and PA RF chokes in too close proximity. This is what's probably causing the reported "Squeal" (oscillation) on transmit.

There are two cures, either of which seems to work. I recommend that everyone make mod 1 or 2, even if you don't know that your unit is oscillating, and even if you have a rev. B. board. This may also improve



2nd harmonic attenuation that was discussed earlier on the list.

[Doug, please add this to the next issue of QRPP if possible.]

1. Put a 1K resistor across each choke (the chokes in the collector leads of the driver and final transistors). If 1K doesn't do it, try 470 ohms on the PA choke.

-- OR --

2. Replace the PA choke with 8 to 10 turns enamel wire (nearly any size will do) on a high-permeability toroid core, such as an FT37-43 or FT37-50. If necessary, do the same for the driver choke (shouldn't be necessary).

Here's what I think is happening, although I've never seen in person the rev. B board or a unit with oscillation. The two chokes are fairly close together on the PC board, so it's almost like they're two halves of a bad transformer. With enough coupling between the two, bingo--you've got an oscillator.

Either the 1K resistor or the toroid will drastically reduce the Q of these chokes, so that they can't "talk" so effectively at the frequency of oscillation.

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Monte Stark <ku7y@sage.dri.edu>  
Subject: [6711] Compaq 286 LTE  
Message-ID: <Pine.SUN.3.90.960405154508.24871A-100000@vortex.sage.dri.edu>

Sorry for the BW,

A short time ago, someone wanted to know where to get the auto adapter for the 286 LTE. I erased the message.

If you are still looking, send me a note. I just bought 2 and there are more to be had.

cul,

73, Ron,

.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....  
....ku7y@sage.dri.edu.....Washoe Lake, Nevada....  
....QRP-L #17....ARRL....NorCal #330.....NRA LIFE.....

From owner-qrp-l@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: NYOUNG@desire.wright.edu  
Subject: [6698] Curiously strong mints, beginner's kits & Ollie North  
Message-ID: <01I36MOV34HE8Y8FD7@desire.wright.edu>

Jeezh! These little suckers are strong! I picked up a box of  
Altoids at the food mart the last trip out. Popped one in my  
mouth and... ZING! Yehaaaaah!!! Now I find myself slurpin' on  
one a couple times a day. Just one little mint. It is waffer  
thin... (You have to be a Monty Python fan to get that line.)

So, now I have an Altoid box with original contents (kinda).  
But I wanna build a 40m QRP radio in a cast box what'll fit  
in the glove box and let me play radio from a camp site in, say  
Blue Ponds Park in Newfoundland. That or on the sweeping deck of  
my viking ship, Hjemkomst. (More media barrage stuff....)

But I would rather, at this exact moment, get the RAC counter  
kit so I can put a digital dial on the Argosy. After all, yew  
kaynt git them counters fer them radios no more, Jeb. So now I  
have to build one... which ain't that bad, 'cept, unlike Jeff  
Gold (who we know is a solidly weird pup, havin' sold off his  
Omni VI and all), I don't really like building. I get nervous.  
When I try to fix something, I blow up two more things. It gets  
dangerous around me when I build stuff. You don't leave machetes  
or cleavers or loaded Colt 1911 issue .45 automatics laying around.  
Why just last week, while trying to get my car radio/tape player  
repaired, I finally gave up and cleaved it in half with a hatchet.  
Then I glued it back together with cyanacrylic and took it out  
put it on the fire pile in the garden. Then I shot it. Then I  
stomped on it. Then I buried it. And it still crawled out of the  
grave and haunted me all night long. So I don't build much any  
more.

But I do want the counter. And that, as you might guess, means  
that I have to move some money around.... which I did just a while  
ago at the credit union. Now all I have to do is write the order  
letter & check and go out and clean the pistol and sharpen the  
hatchet. And get a new soldering iron. I clove that in half too.  
And no, it weren't plugged in. I hate to think what I would have  
done if I'd chopped into the AC line and made sparks fly and blowed  
the fuse.

I learned that money moving thing from Ollie North, by the way.  
Him and Manuel Noriega.

See ya on the air. (I think it's easier to just run the radio  
and talk than it is to build. So I'm talking now. And I can hear  
the little voices pretty good too.)

73  
Nils  
WB8IJN +c

From owner-qrp-l@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "rohre" <rohre@arlut.utexas.edu>  
Subject: [6705] Fixing up the R5 vertical (Dave)  
Message-ID: <n1383403717.10872@msmailgw1.arlut.utexas.edu>

Dave and the group,  
What you need to do to the R5 before remounting it, can be used as a generic  
refurbishing for any aluminum, or other metal tubular antenna.  
Yagis, and other beams bought used should have this done to them before  
mounting, unless they had it done when a new antenna and they are still fairly  
new.

Where you have sliding joints in the main tubing, you should mark the spacing  
so as to preserve the tubing dimensions between trap assemblies. DO NOT on  
the R5, R7, etc. mess with the factory set trombone capacitor and coil  
arrangement. The adjustments for frequency of resonance center are in the  
tubing distance between traps. This sets resonance either to the CW band,  
(longer spacing) or phone band (shorter spacing).

But first you should renew the electrical contact of the main tubing sections,  
after marking with a scratch awl. Take the tubing apart and clean the  
aluminum to remove that white powder which is corrosion. A wire brush may be  
used, but anything that will brighten up the aluminum should work. Some say  
do not use polishing papers, but you can remove the powder residue they leave  
with a rag after the clean up. Wash with a solvent as well. You want that  
aluminum really clean before the next step, and do the next step right away,  
as aluminum oxidizes with an invisible film quite rapidly.

Next, before reassembling the tubes, get some NO OX or similar electric  
silicone grease containing a conductor, which is a compound for Aluminum  
wiring connections (an Electricians supply house like GE or Graybar will sell  
you a tube), and smear some on the tubing that fits inside the other tubing at  
each junction. Don't forget when cleaning the junctions, to clean INSIDE the  
larger tube. Butternut makes a copper loaded grease for anti oxidation called

"Butter Its Not". No Ox is grey, Butter its Not is a copper color, so just pick the one you like. Both are messy on hands, shirt, etc. (Wear your oldest work clothes, the stuff is like a magnet for cloth!)

Make sure any rusty hardware is replaced with new. Most antennas sold today are using stainless screws or other non oxidizing hardware, but if you buy a second hand antenna, someone may have done a repair with what they could get at a small hardware store or even the Auto dept. of the drug store on Sun. afternoon!

Unplug any rain drip holes from the dirt daubers and other insects that like to go inside antennas. Watch out for red ants on antennas that have been left on the ground. Once I picked up a Hy Gain and shook it to get a stray ant off, and another appeared, then I found they were pouring out of a drip hole, having placed a snug nest in a trap!

Be alert on the R5 and R7 series of a few problem areas. The counterpoises are compromises and affect the tuning box set up, so the antenna may surely shift resonance if you put real radials on it. What you might do, is do that anyway, and then adjust the tubing lengths to move your SWR low point back to where you want it in each band. You may find that resonance has shifted out of the band. Note the percentage of frequency shift, and then if it shifted lower and you don't want to or can't adjust tubing; shorten the added radial by the same percentage. If it shifted high in frequency, maybe a longer radial will help. This is an educated guess, as the only folks who said they added radials took them back off when they noted the resonance shift. Antennas work better with real full size radials or counterpoises, and if you don't want to fiddle with the adjusting, you should use the R5 as designed.

My friend who had an R5 has replaced it with the Gap Titan because of the lack of DX, but as most of us know, that is highly dependent on the low sunspots now. He does get more contacts now, but I think his operating times are not optimum for the bands today, and he does not understand propagation too well. His R5 had been a used one, and he did not do the antioxidation refurbishing, and I suspect that had a lot to do with how it played for him.

Another real concern, is some have reported trap failures on R7 models.

Later production took care of those, I am told, but there is another design flaw INMHO. That is the clamping arrangement to mount the R series. You have only two screws both on the same side to clamp through the bottom of the tubing onto a mast of EXACTLY the specified diameter, that slips up inside the antenna tube. IF like my friend, you have the wrong diameter mast inside, (too small) the R5 will work loose in a high wind. He lost the top of his when it all came crashing down. All the clamping action was on one side, and forces were not balanced, allowing play to develop. Perhaps paint on the threads after tightening would be a good idea. Do use a tight fitting bottom mast.

A couple of us went over there and modified the mounting to a more conventional U-bolt arrangement that would work with his electrical pipe conduit mast. It's too bad Cushcraft did not make a way to use pipe conduit sizes as they are more readily available, and with a house bracket and cemented base, quite sturdy as a vertical support right at the roof line.

As best I remember, the components in the matching box at the bottom are all fixed. You could write Cushcraft and for a modest fee or free, they would probably send you a new manual. Most manufacturers are very desirous of you being a happy customer even if second hand. After all, you may want to upgrade to their newer models.

Remember the R5 is only for 20M and up, the R7 had the extra bands; but neither antenna was specified to cover the entire low band (20M on the R5). I think their new replacement antenna takes care of that problem.

I believe Butternut traps cover all of the bands save 80M and 160, and I do not know about later Hy Gain products, but my AVT 18 did cover most bands, except no one gets the whole band of 80M. 100 kHz on 80 is good for a 2:1 bandwidth. If you can make a low Q antenna you cover more of the low band. That is why coil traps are inherently covering less of the band, an average coil is pretty high Q. You need the high Q to get the good trap action. Coax traps seem to do a better job with distributed capacitance, but you don't see commercial verticals using coax cable traps, as eventually coax will give up in sunlight. I have seen 20 year old RG8 have the exposed center insulation turn to a glass hard substance, and crack to the center wire conductor allowing water to enter.

Hope you get the R5 up and running. With a little clean up, and adjustment, you should have a lot of fun with it, if you frequent 20M and above, and the sunspots co operate.

72, Stuart K5KVH

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Ken\_KD1XS@prodigy.com ( KEN HANKS)  
Subject: [6688] FT-840 info  
Message-ID: <013.05246452.KZBQ03A@prodigy.com>

Vernon:

The FT 840 will turn down to 3 to 5 watts without modification. For CW, there are really only 2 choices, either manually push the MOX switch or listen to the relay chatter. The timing of the relay is adjustable, but it can be annoying. Otherwise, the 840 is a great little rig.

Ken Hanks  
KD1XS

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Mike James <msj@best.com>  
Subject: [6700] G5RV Antenna  
Message-ID: <316569ED.495A@best.com>

Does anyone have experience / opinions regarding the VanGorden G5RV dipole antenna? I am thinking about one for my Sierra, and was wondering if it is a good QRP antenna.

Also, thanks to everyone who responded to my SWR bridge inquiry!

Mike James  
KE0CH

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "rohre" <rohre@arlut.utexas.edu>  
Subject: [6707] More from Motorola on Zeners  
Message-ID: <n1383402571.79744@msmailgw1.arlut.utexas.edu>

I was surprised to see the comment someone thought the zener at the collector contributed capacitance as high as 300 pf to suppress low frequency oscillations.

Lets analyze the collector to antenna circuit. If that were true, you would at 40M for example, be swamping out the capacitance needed in the Pi filter and if you look at any common kit which has this collector zener diode, the two Pi filter capacitors are almost equal in value, as they must be.

Now as Larry has posted, the biasing of the Zener by the DC collector voltage works in the direction of REDUCING the capacitance of the diode, and thus in the Motorola Zener databook, I found a graph showing a half watt zener at 44 volts would at 0 volts have only 30 pf capacitance, but as the DC voltage went up, that decreased to 10 or less at only half the zener rating. And as pointed out, the collector is operating with a combination of voltage about twice the DC supply if modulated, etc.

Earlier, I was not intending to say Doug Demaw was the last word on this; but that the book he co authored on solid state rigs only attributes the clamping

of voltage spikes to the zener in the collector.

Well, there you have it from Motorola's Databook, one of the principal makers of zeners and the folks who issued the original Zener Diode Handbook.

What capacitance there is in the zener at the collector is reduced by the DC voltage impressed at all times upon it. The zener goes sharply into conduction if you exceed its rating, and that is widely used as a protection means for lower voltage rated devices.

As to the low frequency oscillations, insure you have good layout, and avoid feedback that would cause an amplifier to oscillate. Have degeneration at low frequency. However, most have learned if you want a good oscillator, design an amplifier!

: -)

72, Stuart K5KVH

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996

From: Mike Czuhajewski <wa8mcq@u1.abs.net>

Subject: [6684] My new address (clarified)

Message-ID: <Pine.BSI.3.91.960405075615.10689A-100000@u1.abs.net>

There has been some confusion about my new address, which is my fault, so here goes--

My original address was mike.czuhajewski@wb3ffv.ampr.org, but it would also work with my alias -- wa8mcq@wb3ffv.ampr.org. When he upgraded from a BBS with some Internet access to a full blown Internet provider, he changed things to abs.net (the initials of his company) so my address became mike.czuhajewski@bbs.abs.net, with an alias of wa8mcq@bbs.abs.net. However, to avoid confusion he decided he would leave the old ampr.org name in place forever so all former addresses would remain valid as well as those with the new format. You could use either my name or call sign, and either of two host names; all 4 addresses would work.

Now that the bbs portion of abs.net has died I have a full SLIP/PPP account and my address is wa8mcq@abs.net. That is the ONLY address that will work now--you can no longer use my name as part of the address, and I'm assuming that any wb3ffv.ampr.org traffic will also bounce (though I haven't tried that).

73 and Queue Our Pea DE WA8MCQ wa8mcq@abs.net [and nothing else!]

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: jim\_kc1fb@usa.pipeline.com (Jim Francoeur KC1FB)  
Subject: [6695] My New Address....KC1FB  
Message-ID: <199604051723.RAA19421@pipe3.t2.usa.pipeline.com>

I have changed my address....please note!

Jim Francoeur KC1FB #29 is now at:

jim\_kc1fb@usa.pipeline.com

Thanks & 72,  
--

Jim Francoeur KC1FB, QRP-L #29

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "Nick Franco" <kf2ph@bnl.gov>  
Subject: [6704] NW8020/40 Part II  
Message-ID: <9604052120.AA24788@bnlux1.bnl.gov.bnl.gov>

Yeah It's Me Again,

OK, OK so I'm an idiot. It's all part of the learning aspect of the hobby. I'm sure you've all blew it on occasion. So let's start over.

I got this NW8020 kit for 40 meters. Only 4 toroids to wind, great! I built the VFO section first according to the instructions. Great thing about this kit is that you build section by section and test each section before moving on (did I say that last time? :-).

I test the VFO and voila! 4.8 to 5.0 MHz just like the band table says it should be (I'm getting better at this). So I'm on my way to the next section, the keying circuit. BTW - I did re-wind the L1 and replace it at lunch time today, just to eliminate confusion.

I install all the components for the keying circuit and get puzzled with Q5. The picture on the PCB shows the transistor in one direction, but the labels for the EBC and not the same as the actual transistor. Uh Oh, I have to think and make another decision. I'm in trouble now. Trying to be logical, I placed the transistor in the PCB opposite to the picture on the board so the legs line up with the labeled E, B, and C. Let's see....I guess I had a 50/50 chance of



being right. BUT - I'm not taking any chances. Either the PCB is screened wrong or the transistor is a replacement or something.

The next logical step is to look at the schematic, right? So I try to trace this thing out and it looks to me like the PCB is mis-labeled. Not trusting myself, I bring the thing into work today and figure I'll ask a tech to help me figure out if my suspicions are correct.

Well I had several email messages waiting for me this morning calling my attention to the L1 blunder I made the day before. I even got a phone message from Preston - WJ2V, telling me what I did and not to go "fixing" any other unbroken things. Ain't this group great?

Someone, it may have been Preston, told me that the the labeling on the PCB for Q5 were indeed wrong and I should put in the transistor according to the picture shape not the leg labels. So, I replaced Q5 the correct way (50/50 shot and I was wrong :-). Everything looks great now. I'll have to see how far I get over the weekend. I'll give an updated progress report on Monday.

Happy Holidays to all on this great group. CU next week.

72  
Nick

.. . \_' \_ \_' \_' \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_  
Nicholas J. Franco Brookhaven National Laboratory - RHIC Project  
Sr. Systems Specialist Building 1005, UPTON, N.Y. 11973-5000  
phone: (516) 344-5467 <http://www.rhichome.bnl.gov/People/franco>  
email: [nickf@bnl.gov](mailto:nickf@bnl.gov) Ham: [kf2ph@bnl.gov](mailto:kf2ph@bnl.gov) QRP-L # 13 <><

From owner-qrp-l@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Ed DeBuvitz <[edeb@indirect.com](mailto:edeb@indirect.com)>  
Subject: [6685] open wire source  
Message-ID: <Pine.BSD/.3.91.960405064052.26357A-1000000@bud.indirect.com>

A friend of mine is looking for about 100 feet of 600 ohm open wire.  
Anyone know of a source?  
Thanks in advance...  
Ed W5TTE  
[edeb@indirect.com](mailto:edeb@indirect.com)

From owner-qrp-l@Lehigh.EDU Fri Apr 5 22:06:44 1996

From: Michael D Wyman <Michael\_D\_Wyman@ccm.ch.intel.com>  
Subject: [6686] QRP+ for sale

Hello all,

I have a QRP+ s/n 136 that is brand new (used twice) still in the original box. I would like to sell it for \$495 and I will ship. I am selling it so I can buy an Icom 706. All interested parties can get hold of me at:

Michael\_D\_Wyman@ccm.ch.intel.com

Thanks es 72 de Mike WB1CWD

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: GREGOIRE@endor.com (ERNEST GREGOIRE)  
Subject: [6712] QSOK MIC.CONN.FOR QRP++  
Message-ID: <199604060138.UAA126563@nss2.CC.Lehigh.EDU>

Hello Gang,

Just got my QRP++ back from Index Labs this week. I am told that I am one of the lucky few that was sold a QSOK brand microphone with the old QRP+.

It seems that old ser.no rigs, (mine is 364) and older have the QSOK brand mic. The diagram on page 5 in the new Index manual will not work for these mics. The pin out is as follows:

Inside the mic. on the printed circuit board, pins read 1,2,3,

for the mic. to work:

connect the ring of the jack to pin 1,

connect the sleeve of the jack to pin 2, (this is the braid, gnd)

cut off the other lead, this would have been connected to the tip of the jack, and is not connected to anything.

The mike is so hot that it picks up back ground noises. Bruce told me to change R5 to 2.7k. He said this changes the agc somewhat and affects the ssb xmt. This change is incorporated in the most recent QRP++ upgrades, mine has been back a week now.

I think I'll try a piece of foam over the mic. before I change any resistors inside.

de AA1IK                    N.E.-QRP-C. # 202    ( Lead by example, It is better to    )  
                             QRP-L member #95.    ( pull a string than it is to push it.)

Ernie Gregoire  
RR 1 Box 221  
Canaan, NH. 03741

New England QRP Club, information  
available on request by sending me a  
S.A.S.E. or via E-mail.

e-mail : GREGOIRE@ENDOR.COM  
packet : AA1IK@WA1WOK.FN43FE.NH.USA

From owner-qrp-l@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: CLATON.CADMUS@hamlink.mn.org (CLATON CADMUS)  
Subject: [6692] SOAPBOX  
Message-ID: <828702300.AA05940@hamlink.mn.org>

Well I just had to reply, I agree with most of what Paul VE3PFT said,  
except for the following paragraph:

CO>     At the other end, QRP SSB on 10M at 10PM local, at the bottom of the  
       >cycle? Are you kidding? Ground wave is the best you're going to get,  
       >maybe a little scatter, maybe a hop, but the MUF collapsed hours before.

I live in Minneapolis and we use ten often for local conversations.  
During many of these evenings we are treated to wonderful periods of  
skip during the late evening hours. Just in the past couple of months  
I've had QSO's to Canada, Colorado, Florida, Texas and a very strange  
evening with skip into North and South Dakota just to name a few.  
Whether this is E, aurora, or whatever it was fun nonetheless. The  
moral here is that 10 meters is not dead, just not as lively. But if we  
abandon it and not listen once in awhile, 10 might as well be dead.

As for many of the discussions of late about 10 meter QRP. It was my  
impression that these posts concerned building rigs in preparation for  
the future world wide prop to come in a few years. It's only going to  
get better!

73 de Claton Cadmus, KA0GKC

```
-----  
| FIDOnet= Claton Cadmus 1:282/100 |  
| INTERNet= Claton.Cadmus@hamlink.mn.org |  
| PACKETnet= KA0GKC@WB0GDB.#STP.MN.USA.NA |  
-----
```

If anything I have written makes any cents, I claim copyright!  
\* SLMR 2.1a \* Since I gave up hope, I feel much better!

---NoSnail v1.17

\*\*\*\*\*  
HAM>link< RBBS - Serving the Amateur Radio Community Since 1983

- 612/HAM-0000 v.34                      Ham Radio Spoken Here!!  
- 612/HAM-1010 v.32b                    Reply to sender @ hamlink.mn.org  
\*\*\*\*\*

From owner-qrp-l@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: meh@cbsms1.cb.att.com (m.e.hartwell)  
Subject: [6679] Ten Tec cabinet for sale  
Message-ID: <199604041501.KAA14164@emsr1.emsr.att.com>

FOR SALE

I have a Ten-Tec enclosure I want to sell

It is 4 1/4"H X 10"W X 10 3/8"D

It is painted the same color as the Argonaut 509  
and associated cabinets.

I want \$25.00 shipping I think an additional \$3.00  
should cover that first class mail in the US.

Send email to me at: meh@cbsms1.cb.att.com or  
call me at (614)860-2091 during the day.

Marty Hartwell kd8bj

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "WILLIAM R. COLBERT" <v31xe@dzn.com>  
Subject: [6702] V-Beams  
Message-ID: <31657E87.12C7@dzn.com>

Mill, I saw your posting yesterday and a reply from Jay with some information. I do use and have been using V-Beams for several years. At my work location I have installed a rosette of 5 sloping V-Beams, 505 feet per leg, with the apex angle of about 30 degrees. This is optimum for the range of 3-30 Mhz range with better results and gain figures in the 12 Mhz and above range (up to 12 dbd 14-18 Mhz). These run from a 65 ft above ground steel pole out to 25 ft wood poles and are terminated on each leg with a 400 ohm resistor. Total resistance is 800 ohm. Of course you can run the antenna without terminating resistors for the same gain figures, but bidirectional on a line bisecting the V. I also have installed some short V-beam antennas (leg length 200 ft or less) in some overseas roof top locations with good results. Not much gain (3 db or so) below 40 meters, but give good results on the bands 40 - 10. The baluns used are 12-1 on the large arrays, with 9-1 (450-50 ohm) on the smaller ones. One of the publications that I use is Dipole and Wire Antennas by Ed Noll with has chapters on both short and long V-Beam and longwire antenna systems. I think your antenna setup from the fire tower should work well. Run the sloping legs down to approximate 10-15 feet high at the far end. The baluns used were commercial types one set from Palomar and the others (used for the short Vee systems) from the Wireman. Good Luck. 72/73 Ray

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "Kerry W. Miller" <kmiller@flash.net>  
Subject: [6683] Where to get 40-9er kits  
Message-ID: <1.5.4.32.19960405122924.00679a7c@mail.flash.net>

Hi, gang,

I know this has come up before, but I'm going to ask again since I didn't save it. Where/how can I order the 40-9er kits? I built a 40m rig in a band-aid box and a friend wants to build one but doesn't feel like he is enough of a scrounger to do it himself like I did. I'm trying to get him interested in building and told him that if he wants to build one, I'll do one with him... So how do I order 2 of these kits?

Tnx,

Kerry (CW Forever) Miller

PS Look for us on FD using his call, N5BTH, QRP naturally!

```
      \\\  
      (  )  
      ( oo )  
|-----oo00--()--00oo-----|  
| Kerry Miller                Royse City, TX |  
|                                WD5ABC        |  
|-----|  
kmiller@flash.net
```

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "James C. Owen, III" <owen@apollo.eeel.nist.gov>  
Subject: [6699] RE: 40-9er/49er Help needed.  
Message-ID: <49411.owen@apollo.eeel.nist.gov>

In message Fri, 05 Apr 96 12:37:59 -0500, scott.thomas@circellar.com writes:

The chokes I have, which are taped together,  
> have colors of orange (or red), orange (or red), gold and black and a  
> green body. The instructions indicate they should be 2.2uH with colors  
> silver, red, gold, red, silver.

I think that the problem MAY be in the instructions. If it's really a MIL spec choke of 2.2 uh as the five color bands in the instructions indicate then the first band should be SILVER and double the width of the others this indicates a MIL SPEC part, the second band is first significant figure (red), third band is the Decimal Point (gold), fourth band is the second significant figure (red), fifth band is tolerance (silver 10%). If it's not a MIL part then it should have 4 bands. First band first significant figure (red), second band second significant figure (red), third band MULTIPLIER (gold .1) fourth band tolerance (black +/- 20%). I believe what you have are 2.2 uh 20% chokes and the instructions are written for MIL SPEC chokes.

73 Jim K4CGY qrp-1 #72

PS Went into SAFEWAY after work yesterday to get a couple of items and what did I see at the checkout but a display of ALTOIDS mints. Just had to buy a box--now I guess I'll have to get a 40-9er for the box.

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "Frank G3YCC" <g3ycc@enterprise.net>  
Subject: [6694] Re: Antenna Wire Size...?  
Message-ID: <199604051817.SAA27014@mail.enterprise.net>

In my opinion, wire diam is of little importance at HF. I have used all sorts and in your case, you use what you can get away with. If you can get hold of the control wire that model aircraft folk used to use, which is extremely strong and very thin, it works fine. Blackbirds however don't see it that well and can end up doubling their family in an instant .... Chung .... one blackbird becomes two...or two halves - I jest:>}. If all else fails, get a flagpole and run up the Star Spangled Banner to show how patriotic you are, AND run a wire up the side. This is to act as a lightening conductor if anyone asks, but you and I know it is a nice 30 foot vertical, which will radiate well on the bands. There is always a way of putting out a signal - I wish you well. Cheers.

-----  
73

Frank G3YCC G QRP 042

QRP Web Page: <http://homepages.enterprise.net/g3ycc/>

Packet: G3YCC@GB7HUL.#15.GBR.EU

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: ae4ic@nr.infi.net (BOB KELLOGG)  
Subject: [6713] Re: Choke your 40-9er, now!  
Message-ID: <199604060315.WAA04872@mh004.infi.net>

Hi Wayne,

Just to confirm your comments, I do have a rev. B board, and the original PA choke, RFC4, was mounted vertically about as close to the end of the driver choke, RFC3, as possible. (their axis were at 90 deg.)

I didn't use any resisters in parallel with the chokes.

>There are two cures, either of which seems to work. I recommend that  
>everyone make mod 1 or 2, even if you don't know that your unit is  
>oscillating, and even if you have a rev. B. board. This may also improve  
>2nd harmonic attenuation that was discussed earlier on the list.

Next week, I'll ask John McKee to put the 49er (sorry) on his spectrum analyser, and we'll report the results with the 42uh toroid choke at RFC4.

In the meantime, inquiring minds want to know a little bit about determining the inductance of the collector chokes. The driver choke is 1uh and the PA choke is 15uh on the circuit diagram. Your first suggestion was to replace them with 42uh toroid chokes. I was surprised at the difference in inductance. The toroids would be less likely to talk to each other, so why not just wind them for 1uh and 15uh? (I think there must be a rule of thumb here, and I'm trying to decipher it)

Thanks, 72, and CUL,  
Bob Kellogg, AE4IC  
Prolably, but not nececelery. - Benny Hill

From owner-qrp-l@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Monte Stark <ku7y@sage.dri.edu>  
Subject: [6703] Re: G5RV Antenna  
Message-ID: <Pine.SUN.3.90.960405105313.22965D-1000000@vortex.sage.dri.edu>

On Fri, 5 Apr 1996, Mike James wrote:

> Does anyone have experience / opinions regarding the VanGorden G5RV dipole  
> antenna? I am thinking about one for my Sierra, and was wondering if it is a  
> good QRP antenna.  
>  
>

I used a G5RV for about 3 years. It worked but.....

When I looked at it with my Autek, I found that it was not resonant  
any place!

I think you are better off with open wire feeders going to the longest  
wire flat-top you can put up. Use with a tuner.

Just be sure to remember that anything is much better than nothing!  
Hook up something and have fun!

cul,

73, Ron,

.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....  
....ku7y@sage.dri.edu.....Washoe Lake, Nevada.....  
....QRP-L #17....ARRL....NorCal #330.....NRA LIFE.....



From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: "Frank G3YCC" <g3ycc@enterprise.net>  
Subject: [6693] Re: Insulators Wanted  
Message-ID: <199604051817.SAA27009@mail.enterprise.net>

> Date: Wed, 3 Apr 1996 19:32:45 -0800 (PST)  
> Reply-to: kg7pv@teleport.com  
> From: Steve Miller <kg7pv@teleport.com>  
> To: "Low Power Amateur Radio Discussion" <qrp-1@LEHIGH.EDU>  
> Subject: Re: Insulators Wanted  
> X-To: qrp-1@LEHIGH.EDU

> At 01:44 PM 4/3/96 -0500, you wrote:  
> >I am looking for PYREX glass "dog bone" antenna insulators. These are clear  
> >glass, around four to six inches in length with smooth holes in either end.  
> > They are used for HF wire transmitting antennas such as dipoles, vees, etc.  
> >  
> >I have seen them on a few HF wire antennas and in one (defunct) hardware  
> >store many years ago.  
> >  
> >73, Jay  
> >WB6AAM  
> >  
> I have had good luck making my own center and end insulators from thick  
> sheet clear  
> acrylic. Buy it from a local plastic shop (Tap Plastics) by the pound -  
> very cheap.  
> Cut it to size using a fine blade like a hack saw or metal cutting jig saw.  
> Drill your  
> holes, round the corners if ya want with the saw...then use a propane torch  
> to "flame"  
> the holes and edges. They end up clear, smooth and slightly rounded. Be  
> sure to have  
> good ventilation and handle the HOT plastic carefully! If you drill several  
> holes you can  
> loop the wire back and forth - won't pull out (I use 3 holes) and then loop  
> it back  
> around for ends or solder to your feedline or PL259. I even made a center  
> insulator  
> this way that clamps and holds my ladder line feeder. Takes two pieces and  
> some  
> stainless or brass machine nuts to hold it together. Hope this helps. 73 all.  
> Steve Miller KG7PV  
> Portland, Or (packet kg7pv @ k7iqi.or.usa.noam)  
> Norcal # 308, QRP-L #109  
>

>  
>  
>

OK, not my choice though for insulators. Get a piece of PCB, glass fibre type, remove the copper (etc off), drill a hole in each end and Bingo! - a strong and very light insulator which won't make your wire sag. Use the same PCB idea as a centre piece, leave two strips of copper. Solder dipole wires (or doublet etc) to strips, also feeder. Drill holes to take strain off wires. When finished, coat with some sort of water repellent (underseal, Waxoyl - if it is sold in USA, etc).  
Bye.

-----

73

Frank G3YCC G QRP 042

QRP Web Page: <http://homepages.enterprise.net/g3ycc/>

Packet: G3YCC@GB7HUL.#15.GBR.EU

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: davander@niia.net  
Subject: [6681] Re: TopBand: K1HTV 160M LP/QRP report (fwd)  
Message-ID: <199604050647.AAA04224@silver.niia.net>

You've peaked my curiosity...what is K1HTV running for an antenna?

The stuff he is working is a superb example of what qrp can do, but I learned long ago that a few watts into the right antenna is what makes the difference. So I am curious as to what the antenna farm at K1HTV is made up of....

Dan Vanderplough, NA9N

From owner-qrp-1@Lehigh.EDU Fri Apr 5 22:06:44 1996  
From: Stan Cooper <71154.331@compuserve.com>  
Subject: [6689] Re: Where to get 40-9er kits  
Message-ID: <960405161427\_71154.331\_DHB83-1@CompuServe.COM>

Hi Kerry,

The parts kit (all board parts, p c board, and 7040 crystal) for the 40-9er are available for \$25 each to US addresses and \$30 each to DX addresses from:

Jim Cates, WA6GER  
3241 Eastwood Rd.  
Sacramento, CA 95821

Please remit in US funds only and make checks/money orders payable to Jim Cates,  
NOT NorCal.

It's a fun little project. Good luck.

72,  
Stan K4DRD